

REMARKS

This application has been carefully reviewed in light of the Office Action dated July 31, 2007. Claims 1, 3 to 20, and 22 to 40 are present in the application, with new Claims 39 and 40 having been added herein. Claims 1, 20, 39 and 40 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Applicant wishes to thank the Examiner for the courtesies and thoughtful treatment accorded Applicant's undersigned representative during the November 28, 2007 telephonic interview. This Amendment has been prepared based on the discussions and agreements reached during that interview and Applicant submits that the following reflects those discussions and agreements.

In the Office Action, Claims 4 to 9, 23 and 24 were indicated as being allowable if they are rewritten into independent form. As recited above, new Claims 39 and 40 have been added and it is submitted that Claim 39 corresponds to previously-presented Claim 4, while Claim 40 corresponds to previously-presented Claim 23. Thus, while Claims 4 to 9, 23 and 24 continue to be believed to be allowable, Claims 39 and 40 are also believed to be allowable.

Claim 38 was rejected under 35 U.S.C. § 101. Without conceding the correctness of the rejection, Claim 38 has been amended so as to be a statutory computer medium claim. Reconsideration and withdrawal of the § 101 rejection is respectfully requested.

Claims 1, 3, 10 to 20, 22 and 25 to 38 were rejected under 35 U.S.C. § 103(a) over "HTTP Streaming of JPEG2000 Images" (Deshpande) in view of "The JPIK

Protocol" (Taubman). As discussed during the interview, the rejections are respectfully traversed and reconsideration and withdrawal of the rejections are respectfully requested.

The invention relates to selecting data of a compressed digital signal (image) for downloading image data from a server to a client computer. The invention aims to provide a more optimum amount of data being downloaded by taking into account various factors, including, for example, network bandwidth, and/or memory or processing capacity of the client. With this goal in mind, a server stores original image data in compressed format for different levels of gradation. The compressed image is broken up into smaller portions, commonly known as tiles at a first (top) level, precincts at a second level, and code-blocks at a third (smallest) level. As an example, an image Fig. 5 is broken down into four tiles (t0 to t3), with each tile being composed of four precincts (Prec. 0 to Prec. 3), and each precinct being composed of sixteen code-blocks. Thus, the entire image is composed of the data for the four tiles, the 16 precincts, and the 256 code-blocks. Dividing an image as shown in Fig. 5 is not new and is in fact known in the art. What is new, however, is how much data and which data for the image is to be downloaded to the client when a user requests data for a particular region of interest.

In the invention, when the user specifies a region of interest of an image, a determination is made of a set of data necessary to satisfy the request and which has not yet been received by the client, taking into account the data previously received. In other words, the invention looks at data already received and determines what additional data is needed to fulfill the request. The invention then determines at least one level of spatial granularity of data as a function of the region of interest and of the structure and organization of the data in the signal (image). In this determination, the invention differs

from the prior art. Specifically, the invention makes the determination based on three factors: 1) the determined set of data necessary to satisfy the request, 2) the minimum quantity of data to be received by the client, and 3) the total quantity of data present in the signal (image). (See, e.g., page 20, line 26 to page 27, line 5 and Fig. 7). By referring to these three factors, the invention can better determine how much data can be provided so that, if a higher bandwidth or memory capacity is available, a greater amount of data as a function of the total quantity of data for the image signal can be provided to the client. To make the foregoing even clearer, Claims 1 and 20 have been amended with regard to the meaning of “the total quantity of data in the signal”.

Deshpande is merely seen to teach the conventional JPEG2000 approach discussed in the background of the invention portion of the specification, and as such, suffers from the same problems described therein which are solved by the invention. In this regard, the Office Action alleges that Deshpande teaches the step of determining at least one level of spatial granularity which depends on the minimum quantity of data to be received by the second apparatus to reconstitute the region of interest and the total quantity of data present in the signal. It was also alleged that “the amount of data in the precinct is compared to the minimum data necessary.” When following this position based on page 18, column 1, last paragraph to column 2, first paragraph, it seems that a “precinct” is considered as being the “total quantity of data” as recited in the claims.

Referring to the foregoing passage of Deshpande, it recites: “For rectangular ROIs, the identified precincts/code-blocks will also form a rectangular region in each resolution subband. Depending on the progression order, a row of precincts may occupy a contiguous codestream segment. If some precincts only cover a few code-blocks

of interest, then only the data for those code-blocks instead of the whole precinct may be retrieved and streamed.” Thus, a rectangular region of interest ROI covers several precincts. However, the region of interest is not representative of all the data in the signal, in particular for the concerned level of spatial granularity. Thus, according to Deshpande, only the precincts that overlap the region of interest are taken into consideration, not the other precincts in the level of spatial granularity of concern. This means that, when determining the level of spatial granularity of data as a function of the region of interest and of the structure and organization of the data in the signal, in Deshpande, the total quantity of data present in the signal (which include other precincts than those covered by the region of interest at the level of spatial granularity of concern) is not taken into account in the determination step.

In view of the foregoing deficiencies, amended independent Claims 1 and 20, as well as the claims dependent therefrom, are believed to be allowable.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner’s earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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